

PATENT APPLICATION
Do. No. 1482-132

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of: Barrie Gilbert

Serial No. 09/545,691

Examiner: Philip Sobutka

Filed: April 7, 2000

Group Art Unit: 2683

For: RF MIXER WITH INDUCTIVE DEGENERATION

Date: November 26, 2002

Attn: Board of Patent Appeals and Interferences
Commissioner for Patents and Trademarks
Washington, DC 20231

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**TRANSMITTAL OF REPLY BRIEF AND
PETITION TO REOPEN PROSECUTION**

This Reply Brief and Petition to Reopen Prosecution is responsive to the Examiner's
Answer mailed on September 26, 2002.

Also enclosed is:

- ☒ Form PTO-2038 authorizing payment in the amount of \$130.00 for the petition fee
under 37 CFR 1.17(h)
- ☒ Any deficiency or overpayment should be charged or credited to deposit account no.
13-1703.

Respectfully submitted,

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REPLY BRIEF

This Reply Brief is responsive to the Examiner's Answer dated September 26, 2002.

Request To Reopen Prosecution

Applicant has filed concurrently herewith a Petition to Reopen Prosecution on the basis that the Examiner's Answer contains an impermissible new ground of rejection, and Applicant has not been given a fair opportunity to react to the rejection. A copy of the Petition is attached hereto. In the Examiner's Answer, the Examiner advanced a new interpretation of the prior art that is significantly different than the interpretation set forth in the Final Office Action. Applicant should be given an opportunity to submit additional evidence that refutes this new interpretation. Applicant respectfully requests that the Supervisory Patent Examiner reopen prosecution on this case. See MPEP 1002.02(d)(2).

Response to Examiner's Answer

Applicant should be given an opportunity to present evidence that refutes the new interpretation of the prior art set forth in the Examiner's Answer. Nonetheless, the new arguments advanced in the Examiner's Answer, taken at face value, are still insufficient to establish a *prima facie* case of obviousness.

Claim 15 recites two input stages of a specific type that are arranged in a well-defined manner. The examiner's arguments with respect to the prior art are incorrect in terms of (1) what the elements are, and (2) how the elements are arranged.

Claim 15 recites a second class AB input stage. The Examiner alleges that transistors Q3 and Q6 in Fig. 9 of Voinigescu, although not a class AB circuit, still satisfy the requirement of an "input stage." However, the Voinigescu reference does not support this interpretation. Transistors Q3 and Q9 are not an "input stage," but instead are part of a "mixing quad" formed by transistors Q3, Q4, Q5 and Q6. (See col. 14, lines 31-32 of Voinigescu.) The Examiner seems to acknowledge this at the end of the second paragraph page 5 of the Examiner's Answer where reference is made to the "mixer stage" and "mixer core."

One skilled in the art would not interpret the mixing quad formed by transistors Q3, Q4, Q5 and Q6 (much less the artificial combination of transistors Q3 and Q6 taken alone) as an "input stage" as recited in claim 15. This is born out by the Voinigescu reference itself which distinguishes between an input stage (see col. 14, lines 29-30 referring to transistors Q1 and Q2 in Fig. 9 as an "input pair") and a mixing quad (see col. 14, lines 31-32). This is also supported by the entirety of Applicant's specification which consistently distinguishes between a mixer core and an input stage. (See, e.g., page 5, line 27 of the specification referring to the mixer core 24 and input section 26 of Fig. 3.) Thus, Voinigescu does not disclose a second input stage as recited in claim 15.

Claim 15 also recites a first class AB input stage coupled to the first and second output terminals and arranged to drive the first and second output terminals responsive to a first input signal. The examiner alleges that transistors Q1 and Q2 in Fig. 9 of Voinigescu satisfy this limitation. Applicant concedes that transistors Q1 and Q2 form an input stage. However, it is not a class AB input stage, and it is not arranged as recited in claim 15 if one accepts the Examiner's interpretation of the Voinigescu's IF- and IF+ terminals as being the first and second output terminals.

The Examiner admits that Voinigescu's Q1, Q2 input stage is not "directly coupled" to the output terminals, but then appears to argue that it is still effectively coupled to the output terminals because the input signal (RF) to the input stage (Q1,Q2) ultimately has an effect on the output terminals (IF-,IF+). (See Examiner's Answer, page 5, first sentence of second paragraph.) The Examiner is advocating a strained interpretation of Voinigescu in which the first input stage is coupled to the output terminals *through the second input stage*.

This interpretation is unreasonable because (1) the mixer core formed by transistors Q3, Q4, Q5 and Q6 cannot be interpreted as a second input stage, and (2) it is contrary to the plain language of Claim 15 which recites that the first input stage is coupled to the first and second output terminals.

The Examiner then tries to justify this strained interpretation by explaining that Voinigescu's input stage and mixer core work "together" to produce the two outputs. (See Examiner's Answer, page 5, last sentence of second paragraph.) The first and second input stages recited in claim 15 might be described as working "together" in the sense that they operate in a differential manner as explained in the specification at page 20, lines 25-26. But this differential operation is a result of the manner in which they are arranged—an arrangement that is clearly defined in claim 15.

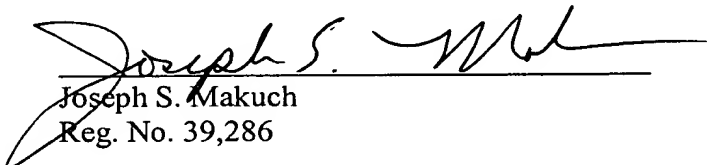
In essence, the Examiner is arguing that claim 15 recites two elements, each operating responsive to separate input signals, that work together to drive two output terminals; and since Voinigescu discloses two elements (a mixer core and an input stage), each operating responsive to separate input signals, that work together to drive two output terminals, it therefore satisfies the limitations of claim 15. This overly simplistic analysis ignores important limitations on both the type of elements recited in claim 15, as well as the manner in which they are arranged.

Conclusion

Applicant requests that the rejection of claim 15 be reversed, or in the alternative, that prosecution be reopened to allow Applicant a fair opportunity to fully develop the record.

Respectfully submitted,

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